

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT**

CLASSIFICATION TITLE Electrical Engineering Technician II	DISTRICT/DIVISION/OFFICE Dist 04/Mtce/ Mtce & Toll Engineering	
WORKING TITLE SCADA Specialist	POSITION NUMBER 904-609-3627-	EFFECTIVE March 5, 2014

As a valued member of the Caltrans team, you make it possible for the Department to improve the mobility across California by being innovative and flexible; working cooperatively with team members and others; and treating others fairly, honestly and with respect. Your efforts are important to each member of the team, as well as those we serve.

GENERAL STATEMENT

This is a full journey level Supervisory Control & Data Acquisition (SCADA) Specialist position of the Electrical Engineering Technician Series. Under the general supervision of a Senior Transportation Engineer, Electrical, the incumbent will perform various technical electrical transportation engineering tasks of routine and average difficulty. May receive guidance from Transportation Engineers. Traveling is required, should possess a valid driver's license. CompTIA A+ and ITA certification is preferred.

TYPICAL DUTIES

Percentage

Essential (E)/Marginal (M)¹

60% (E) The duties include investigating and diagnosing faults, failures, breakdowns and improper operations related to lighting, fog horns, call boxes, motion alarms, variable frequency drives (VFD), jet fans, dumpers, motors and variety of other sensors in conjunction with Remote Terminal Unit (RTU) and communication equipment.

Identifies and resolves SCADA issues which includes but are not limited to: communication failures between Programmable Logic Controllers (PLCs), servers, and workstation clients. Troubleshoot and resolve Input/Output (I/O) issues. Modifies ladder logic programs of the existing GE and Modicon to add or delete I/O data points and field devices. Installs programs specific to various SCADA software programs used in the District, such as iFix, Wonderware, Dynac. Rebuilds SCADA main and standby servers utilizing the District licensed software. Reconfigures routers and Ethernet switches by assigning proper IP addresses to repair commutation failures. Investigates and reports wide area network (WAN) communication failures.

20% (E) Provides technical support to the District's field staff to resolve various SCADA system issues. Works with team members, field maintenance staff and contractors to fix field electrical and electronic controls and power devices and perform field investigations. Performs routine PLC configuration file backup for safe keeping.

Correlate plans, designs, drawings and data with physical conditions; prepare and check as-built plans; maintain accurate and complete project records. Assists consultants with retrieval of the existing District PLC configuration files. Report the status of work and the completed results as mandated by supervisor.

- 15% (E) Assists with review and approval of consultants' submittals, plans, and specifications for new SCADA and power distribution projects; reviews plans, quantities, cost estimates and specifications of routine transportation electrical projects; and assists with field inspection of transportation electrical and electronic systems.
- 5% (M) Uses computer-aided design drafting (CADD) systems and personal computers to prepare project plans and documents.

SUPERVISION EXERCISED OVER OTHERS

The position does not supervise.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

The incumbent must have a thorough understanding of WAN, LAN, and IP protocols. Must be able to understand and implement VLAN, and IP subletting. The incumbent must have knowledge of the design of electrical, electronic and associated systems. Knowledge of electrical and electronic materials, components, installation and construction methods; personal computers; electrical systems for motors and their controls; communication systems; electrical control schematics and wiring diagrams; electrical and electronic theory and practices; engineering mathematics; Standard Specifications, Standard Plans; the department's safety and health policies and procedures; basic safety practices contained in the California Code of Regulations, Title 8 Industrial Relations, Safety Orders, and the General Industry Safety Orders regarding personal protective equipment.

The incumbent must be able to follow directions. Must be able to interpret all drawings, plans and specifications of any kind encountered in the contract documents; do routine electrical layouts. Use state-of-the-art technology, i.e., CADD, personal computers. Evaluate work situations, meet deadlines, and work with others. Must exercise good judgment and personal skills in dealing with field staff, resident engineers, and contractors.

The incumbent will be required to understand basic electrical design principals; make routine engineering calculations; ability to research and compile data and prepare calculations for a variety of transportation improvement projects. Incumbent should possess a valid driver's license.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS

Unsafe electrical installations, lack of on-site technical electrical knowledge on complex electrical projects, non-compliance with plans and specifications, projects being advertised with incomplete and /or unbuildable plans and specifications, resulting in contract change orders, and contractor's claims for added compensation.

PUBLIC AND INTERNAL CONTACTS

The incumbent must be able to establish and maintain friendly and cooperative relations with those contacted in the course of the work. Some contact with Contractors, the Region Construction Office, Resident Engineer's offices and the general public will occur.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

When on construction project sites, the incumbent may be required to stand for long periods of time, walk on slopes or uneven terrain. When at their base office setting, the incumbent may be required to sit for long periods of time using a keyboard and video display terminal. In the course of the employee's work, he or she must maintain a cooperative working relationship within the working environment, with peers, subordinates, and contractors and their employees. The incumbent must have a thorough working knowledge of construction principles and techniques to include personnel management and supervision.

WORK ENVIRONMENT

The incumbent will be subject to noise, odors, and dust; extreme weather conditions when on construction project sites; when working at the base office site, will be subject to a climate-controlled environment; artificial lighting, etc. Work is with and about a variety of materials, construction and testing equipment.

I have read and understand the duties listed above. If you believe you may require reasonable accommodation, please discuss this with the hiring supervisor.

Employee (please print)

Employee Signature Date

I have discussed with and provided a copy of this duty statement to the employee named above.

Supervisor (please print)

Supervisor Signature Date.